

GAGANA K

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SKILLS

Programming & Scripting: Python, R, SQL, TypeScript, JavaScript

Web & Backend Development: React, Node.js, FastAPI, Express, JWT Authentication, Role-Based Access Control

AI & Machine Learning: Scikit-learn, Regression, Classification, Clustering, Feature Engineering, Causal Inference (EconML), NLP, Large Language Models (GPT-4, Groq LLaMA-3.3-70B), Prompt Engineering, Retrieval-Augmented Generation

Statistics & Data Analysis: Probability, Hypothesis Testing, Regression Analysis, A/B Testing, Feature Engineering, Exploratory Data Analysis, Pandas, NumPy, Excel

Data Visualization & BI Tools: Streamlit, Plotly, Matplotlib, Seaborn, Power BI, Tableau

Database & Data Engineering: MongoDB, ETL, Data Pipelines, APIs

Research & Documentation: Literature Review, Research Methodology, Data Interpretation, Technical Writing

Dev Tools & Platforms: Git, GitHub, Jupyter Notebook, VS Code, Docker

EXPERIENCE

Biostatistics Intern | African American Women in Trucking Association | Jan 2025 -April 2025

- Analyzed health and survey data using Python and statistical methods to identify trends affecting women in the trucking workforce.
- Performed data cleaning, preprocessing, and exploratory data analysis on structured datasets.
- Applied statistical techniques such as hypothesis testing and regression analysis to support research findings.
- Created data visualizations and reports to communicate insights to the research team.
- Assisted in research documentation and interpretation of results for data-driven decision making.

PROJECTS

Fraud Investigation Narrative Copilot | [GitHub](#)

- Built a full-stack AI application that generates regulator-ready fraud investigation reports using Groq LLaMA-3.3-70B.
- Reduced fraud documentation time from 2–3 hours to under 2 seconds.
- Implemented JWT authentication and Role-Based Access Control for secure analyst and manager workflows.
- Designed a real-time risk dashboard with transaction filtering and analytics.
- Developed audit logging and CSV export features to ensure regulatory compliance.
- **Tech Stack:** React, TypeScript, Node.js, MongoDB, Groq API, Docker

Dynamic Pricing Engine | [GitHub](#)

- Developed a data science pricing engine using causal inference to estimate price elasticity and optimize retail pricing strategies.
- Simulated 7,300 retail observations including price, demand, promotion, and seasonality variables.
- Applied Instrumental Variables (IV) and EconML Double Machine Learning to estimate causal price elasticity (-0.262).
- Built a Streamlit dashboard enabling interactive price simulation and demand-revenue visualization.
- Identified revenue-maximizing price of ₹1,345, increasing projected revenue by 22%.
- **Tech Stack:** Python, Pandas, Scikit-learn, EconML, Plotly, Streamlit

Fraud Investigation Narrative Copilot | [GitHub](#)

- Developed a 1D adaptive testing system that dynamically adjusts GRE-style question difficulty in real-time using Item Response Theory (IRT) and GPT-4.

- Recalculates student ability after each response and generates a personalized 3-step study plan for targeted learning.
- Implemented FastAPI backend with asynchronous MongoDB queries and AI-driven performance insights.
- Ensured session state persistence, duplicate question prevention, and robust API resiliency.
- **Tech Stack:** Python, FastAPI, MongoDB, GPT-4 API, Custom IRT algorithm

EDUCATION

Master of Computer Applications (MCA) | 2025 – 2027

T. John Institute of Technology (VTU Affiliated)

Bangalore, India

Bachelor of Computer Applications (BCA) | 2022 – 2025

IFIM College (Autonomous), Bangalore University

Bangalore, India

CERTIFICATIONS

- **Google Data Analytics Professional** | Coursera | Issued: Jul 2023
- **Artificial Intelligence Primer Certification** | Infosys | Issued: Sep 2024
- **Data Science Certification** | ExcelR | Issued: Aug 2024